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CLAIMS AMENDMENTS

What is claimed is:

Claims 1-7 (canceled)

8. (previously amended)

A method for stabilizing and/or accumulating cellular RNA in vivo resulting in an increase in the total amount of cellular mRNA per cell as well as the protection of RNA from degradation during subsequent isolation procedures comprising:

1) preparing cell culture media depleted of phosphate
2) adding thiophosphate as the sole source of phosphate to the media
3) culturing cells in the modified media for a sufficient time such that most mRNAs and/or rRNAs are modified with phosphorothioate linkages

9. (currently amended)

A method for chemically labeling the RNA and/or DNA inside the cells of organisms comprising:

placing cells in liquid media containing thio-phosphate either by direct contact ~~with liquid media~~ or via bolus injection ~~containing an excess of thio-phosphate~~ such that thiophosphate is ~~can effectively compete with the phosphate~~ present ~~for~~ in significant amounts relative to endogenous sources of phosphate and is taken up by cells and incorporation into cellular nucleotide pools

10. (previously amended)

A method to increase the accumulation of mRNAs and their respective proteins in micro-organisms during culture by preferentially stabilizing mRNAs with shorter than average half-lives relative to mRNAs with half-lives greater than average comprising:

1) preparing a series of microbial culture medias with different ratios of thio-phosphate to phosphate

2) testing the collection of different medias to determine the optimal ratio of thio-phosphate to phosphate in the culture media for maximum induction of protein synthesis from a marker gene whose mRNA falls within the class of those mRNAs with half-lives shorter than average

3) further maximizing the induction of protein synthesis from the said marker gene by determining the optimal time point for the addition of thio-phosphate containing media to the culture of micro-organisms

11. (previously amended)

The method of claim 10 wherein the cells used to enhance the stability of the mRNAs and their respective proteins are prokaryotic or eukaryotic in origin.

12. (currently amended)

The method of claim 10 wherein the accumulation of stabilized mRNAs and their respective proteins in cells includes mRNAs derived ~~preferentially stabilized are produced~~ from a recombinant DNA or viral expression vector or ~~are produced by~~ an intact virus in the host cells used for the fermentation reactions(s)

13. (previously amended)

The method of claim 10 wherein the accumulation of the stabilized mRNAs and their respective proteins results in an increase in a rate limiting enzyme(s) needed for the synthesis of a given organic chemical fermentation product.

14. (cancelled)